

REMARKS

Claims 11, 12 and 15-30 are now pending. Claims 25 - 30 are added to further define allowable subject matter in view of outstanding rejection of independent claims 11 and 22 under Section 103. Support for the now-claimed subject matter is found at pages 6 and 7 of the substitute specification (see, for example, paragraphs 38 and 40). There has been no entry of any new matter. In the outstanding office action, all of the examined claims were again rejected based on combinations of Hickey (4,974,633), Olsen (WO 02/064422A1) and Wobben (U.S. 6,729,846). Applicants request reconsideration of those rejections in view of the above amendment and the reasons noted below.

Independent claim 11 is amended to fully distinguish over the combination of Hickey in view of Olsen. First, it is noted that the recited plurality of recesses each have a shape in accord with the shape of a hemisphere, i.e., while the shapes of the recesses are not limited to that of a hemisphere, the shapes have contours consistent with the curvature of hemispheres. Further, as the air sweeps past a recess, alternating flow eddies form in the recess that assist with continued laminar flow of the air, while also reducing flow resistance along the surface relative to flow in the absence of the recesses. The prior art does not disclose recesses of shape in accord with a hemisphere. By way of example, the Hickey reference expressly discloses details of a concave indentation (figure 4) that includes a protruding central deviation 46 and protruding deviation sets 48a - 48e. See col. 2, lines 46-54. These features are inconsistent with applicant's teaching of recesses having the curvature of hemispheres. Further, only the applicant teaches flow eddies formed in the recess as air sweeps past the recess. And only the applicant teaches to improve flow arranged on the rotor blades approximately in the region between the transition point between laminar and turbulent flow. For all of these reasons claim 11 defines non-obvious subject matter.

Independent claim 22 is allowable for similar reasons presented for claim 11. By way of example, one or more eddy flows form in the recess that assist the passage of the air at reduced resistance relative to conditions in the absence of the recesses. Further, a pattern of alternating flow eddies develop over the surface, extending from one recess to a next recess in the array as a function of air flow speed.

New claim 25 defines flow eddies formed in the recesses that assist with the passage of air flow at reduced resistance relative to flow in the absence of such recesses. The recited plurality of recesses each have a shape in accord with at least a sector of a hemisphere, and each recess is positioned the same distance from all adjacent recesses. The recesses are configured as an array such that, as the air sweeps past the recesses, flow eddies form in the recesses that assist with the passage of air flow at reduced resistance relative to flow in the absence of such recesses

Other patentably distinct features are presented in the dependent claims. For example, in the wind power unit of claim 27, when air flows across the surface, a pattern of the alternating flow eddies develops over the surface, extending from one recess to a next recess in the array as a function of air flow speed. The mast of claim 29 includes a major surface along which the plurality of recesses are formed. In the wind power unit of claim 30, a film with the recesses formed therein is positioned on the outside of the mast.

Conclusion

In view of the amendment and the noted distinctions, the Examiner is respectfully requested to withdraw all rejections. For the above reasons it is submitted that the application is now in condition for allowance.

The Commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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